

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Odier et al ("Sol-gel synthesis and structural characterization of the perovskite type pseudo solid solution  $\text{LaNi}_{0.5}\text{Cu}_{0.5}\text{O}_3$ ", J. Mater. Chem., 2002, 12, 1370-1373).
3. Regarding claims 1, Odier et al disclose composite oxide having a composition represented by  $\text{LaNi}_{0.5}\text{Cu}_{0.5}\text{O}_3$  (Abstract; Experimental; Figure 2; second paragraph in Results and discussion), which satisfies the formula cited in the claim. The reference of Odier is silent about whether this composite oxide has a negative Seebeck coefficient at 100C or higher. However, since the composition of Odier meets the formula cited in the claim, it is inherent to have the same properties as the claimed oxide, particularly the Seebeck coefficient.
4. Regarding claim 2, Odier et al disclose composite oxide having a composition represented by  $\text{LaNi}_{0.5}\text{Cu}_{0.5}\text{O}_3$  (Abstract; Experimental; Figure 2; second paragraph in Results and discussion), which satisfies the formula cited in the claim. The reference of Odier is silent about whether this composite oxide has an electrical resistivity of 10 or less at 100C or higher. However, since the composition of Odier meets the formula cited

in the claim, it is inherent to have the same properties as the claimed oxide, particularly the electrical resistivity.

5. Regarding claims 3 and 4, Odier does not indicate whether the composition is an n-type thermoelectric material. However, since the composition of Odier meets the formula cited in the claim, it is fully capable of functioning as an n-type thermoelectric material.

6. Regarding claims 5 and 6, since the component of the cited thermoelectric module is the n-type material comprising the claimed oxide, the composition of  $\text{LaNi}_{0.5}\text{Cu}_{0.5}\text{O}_3$  as disclosed by Odier meets the formula cited in the claim. Therefore,  $\text{LaNi}_{0.5}\text{Cu}_{0.5}\text{O}_3$  of Odier reads on the instant thermoelectric module.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xiuyu Tai whose telephone number is 571-270-1855. The examiner can normally be reached on Monday - Friday, 7:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexa Neckel can be reached on 571-272-1446. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1795

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/XT/

4/9/2008

/Alexa D. Neckel/

Supervisory Patent Examiner, Art Unit 1795